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Doing well by doing good: A quantitative investigation of the litter effect ☆

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ABSTRACT

Corporate social responsibility can prove challenging for traditional businesses as a profit-making agenda may well be in conflict with the wishes and expectations of other stakeholders. Nevertheless, if organizations can align the incentive of better business performance with beneficial outcomes on a wider social and/or environmental level, so called doing well by doing good, conflict ceases between the two aims. This paper investigates a particular global problem within the context of the fast-food industry. Discarded fast-food packaging is the fastest growing type of litter in many Western countries. The paper establishes, by using a quasi-experimental method (n = 1000), that *multiple* levels of a brand's evaluation are negatively affected when that brand's packaging is seen as litter. This paper also quantifies the financial impact of the litter effect on a company.

1. Introduction

CSR is an increasingly important construct in academia and business (Lee, Park, Rapert, & Newman, 2011) and has also "reached the mainstream public agenda" (Barkemayer, Figge, Holt, & Hahn, 2009, p69). After years of protracted debate, emerging problems such as climate change and the increasing demand on the Earth's limited resources are now almost universally accepted realities. Most major companies now have environmental policies, subscribe to the theory of sustainable development and aspire to be socially responsible corporations. Nevertheless, critics argue that businesses are at best, not doing enough or, at worst, are exploiting the concept of CSR for pure economic gain; "even social marketing is a tool used by management not to enhance social wellbeing but to achieve a competitive advantage with the objective of wealth creation for the owners" (Miles & White, 1997, p416).

But why should businesses behave any differently? Across the world, a private or public limited business exists to maximize profit on behalf of its shareholders. Back in 1970, Milton Friedman coined the phrase hypocritical window dressing to describe the so-called socially responsible actions of business whilst arguing that the only social responsibility business has is to make profits and stay within the law. However, attitudes change and in many countries, particularly in the western world, making money has to be balanced against a requirement to act in the long term interests of the company and its stakeholders, "the goal of business is not profit maximization alone, but also societal acceptability" (Lähdesmäki & Siltaoja, 2010; p. 214). This phenomenon is partly because worldwide public opinion has become increasingly cynical regarding the behavior of large corporations and their effect on society (Korten, 1995). Litter is one particular area of concern that attracts a large amount of public and media attention.

A Dutch experiment shows that the presence of litter in an environment results in twice as many people stealing envelopes protruding from letterboxes (Keizer, 2008). Many other studies demonstrate a link between litter and other social disorder problems and perceptions of the level of crime (see Stafford & Pettersson, 2009). Litter also impacts upon the wider environment. The United Nations Environmental Program (Nellemann & Corcoran, 2006) identifies that 80% of marine pollution comes from land-based sources. This pollution is predominantly packaging from convenience items, food wrappings, beverage containers and smoking-related litter (Sheavly & Register, 2007). When people dispose of these items improperly they wash into storm-drains, sewers, streams or rivers and eventually end up at sea. The world's ocean currents means that much of this litter ends up in floating gyres, the biggest of which (the North Pacific Gyre) covers an area bigger than the state of Texas (Greenpeace, 2009). Sea-birds and other creatures ingest such items and as the

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plastics decompose they pollute the water, creating a huge environmental problem. According to the Head of Environmental Services of the Manchester City Council, littering is an "environmental crime" and "a national plague" (www.manchester.gov.uk).

As well as social and environmental costs, litter is also expensive to clean up. More than 30 million tons of litter are collected from streets in England every year and roughly £858 million a year is spent by local authorities in order to clean them up (www.keepbritaintidy.org).

Litter is one of society's problems but, to date, manufacturers successfully distance themselves from the problem their packaging causes. In the 1950s, packaging companies, rather than environmentalists or concerned citizens, started the Keep America Beautiful anti-litter campaign. They wanted to shift the blame for waste onto the individual consumer (Rogers, 2005). Nearly fifty years later, Subway say whilst they take their responsibilities towards litter seriously "it was still up to individual customers to dispose of their litter responsibly" (Meikle, 2009). In a packaging-industry funded study of 1000 UK adults "38% of the general public blamed beachgoers and tourists for littering Britain's seas and beaches, with only 13% blaming the packaging industry" (Brooks, 2009).

"Without people litter would not exist" (Campbell, 2007 p6) but without packaging they would have nothing to drop. The major supermarket chains are criticized for adding to the packaging/waste mountain. In the UK the big chains are part of a voluntary agreement (the Courtauld Commitment), to control the growth in waste from product packaging. However, data from WRAP (Waste and Resources Action Programme) shows that, in 2008, they were only one tenth of their way towards reaching the target of a 160,000 ton reduction (Monteith, 2008).

In some countries, legislation forces the reduction of packaging, the production of packaging using recyclable materials and other initiatives such as deposit schemes and consumer education campaigns. However, Franklin (2005) concludes that surveys and studies funded by the beverage and/or retail industries are designed to trivialize the effectiveness of deposit laws as litter reduction measures and deemphasize the problem of beverage container litter. Even recycling is a distraction from the task of reducing the production of disposable goods and often not an effective environmental solution. A study by Greenpeace finds that 50% of plastic sent overseas was too contaminated to be recycled. Rogers (2005) lists a number of recycling processes that have environmentally destructive by-products. And most importantly, recycled materials often cannot be produced cheaply enough to compete with their non-recycled equivalents on the market.

Despite a range of voluntary and obligatory measures, the problem of litter worsens. To demonstrate the international scale of the problem, Mumbai, one of the largest cities in India, collects up to 6256 t of litter per day of solid waste per day, comprising of plastic bags and packaging materials at large (Rathi, 2007). The international scale of the problem of litter illustrates that the duties to shareholders and duties to society are often conflicting (Ostas, 2004) and "fuzzy long terms are no match for hard-nosed short terms" (Reich, 1998, p12) and "our corporate leaders make decisions that emphasize legal defensibility rather than ethics or social responsibility" (Rose, 2007, p320). Of course, the CSR versus profit paradox disappears if the two aims are not in conflict and the firm is able to benefit financially by embracing an important CSR issue, in other words doing well by doing good. That litter is a problem in today's society is without question. However, no literature directly links this problem back to the manufacturers themselves. Once products have left factories, warehouses or retail outlets, the whole supply chain absolves itself of any further responsibility. This situation helps fuel an unwanted externality of consumption; a huge increase in litter. If, however, manufacturers believe a negative impact on their product exists if seen in a litter context then they might take the litter problem more seriously. Suddenly, an opportunity exists for the marketing industry to work for the good of society (Roper & Parker, 2008) and to do well by doing good. This study investigates the existence of any so-called litter effect and quantifies its impact upon a firm's financial performance.

2. Theoretical foundations

A number of studies find evidence between corporate social performance (CSP) and better financial performance (FP) (e.g. Allouche & Laroche, 2005; Derwell, Guenster, Bauer, & Koedijk, 2005; Hillman & Keim, 2001; Mahoney & Roberts, 2004; McQuire, Schneeweiss, & Sundgren, 1988; Shen & Chang, 2009; Waddock & Graves, 1997; Wokutch & Spencer, 1987; Wu, 2006). Conversely, other studies either do not find evidence of such a link or find that socially responsible firms experience lower profits and reduced shareholder wealth (e.g. Brammer, Brooks, & Pavelin, 2006; Griffin & Mayon, 1997; Laffer, Coors, & Winegarden, 2004; Lee, Faff, & Langfield-Smith, 2009; Makni, Francoeur, & Bellavance, 2009; Nelling & Webb, 2009; Orlitzky, Schmidt, & Ryes, 2003: Vance, 1975). In conclusion, "research over 35 years shows only a weak link between socially responsible corporate behavior and good financial performance" (Margolis & Elfenbein, 2008, p20).

Halme and Lurila (2008) critique many of the existing CSP/FP studies, explaining their conflicting findings by identifying the looseness of the concept of CSP and the lack of scrutiny in identifying the different types of CSP that might make a difference to the link. As previous studies frame CSP as a monolith (Barnett & Saloman, 2006), then why not identify specific CSP activities that contribute to improved financial performance? In addition, behaving in an irresponsible manner can lead to reputational and related financial costs (Snider, Hill, & Martin, 2003 cited in Becker-Olsen, Cudmore, & Hill, 2006), so a business case for ameliorating against the risk of being exposed for misdeeds (Margolis & Elfenbein, 2008) is made as customer-based corporate reputation is a multi-dimensional construct (Walsh & Wiedmann, 2004). This study addresses these concerns by focusing on one particular measure of CSP (litter).

2.1. Packaging and brands: the litter effect

Until recently, environmental quality surveys undertaken in the UK, Australia, USA and Canada only measure the amount of litter by *product type* dropped, allowing individual manufacturers to remain anonymous. From 2008 Australia measures the amount of litter by *brand* dropped. Branded litter items account for 24% of the total litter stream across Australia identifying over 1000 brands (Keep Australia Beautiful, 2008). As an example, empty Coca-Cola cans were found (as litter) in 91% of the 983 towns and cities surveyed.

Packaging is often referred to as the 5th P of the marketing mix (Kotler, Armstrong, Saunders, & Wong, 1999); the silent salesman (Kornblau, 1961) that provides a multitude of opportunities for the brand to attract the attention of the consumer. Packaging has both a physical and a psychological function. Much of the literature about packaging in the marketing literature deals with the importance of the pre-consumption stage; that is the importance of packaging in protecting and preserving the product, informing consumers, satisfying legal requirements and conveying important brand messages to the consumer, not least that of product quality (Roper & Parker, 2006). Packaging acts as a short-cut that helps the consumer to recognize and fast-track their way through the buying decision. Keller (1998) talks of the importance of shelf impact and declares that one of the strongest associations a consumer can have with a brand is with its packaging. He states that packaging is one of the five key elements of the brand.

Integrated marketing communications often means that in the global marketplace, packaging plays a more central role in advertising and associated areas of the communications mix in order to help build acceptance and recognition of the brand. The proliferation of brands in the marketplace means that greater effort at differentiation is being made at the point of purchase, increasing the importance of packaging in making the sale (Underwood, 2003). Increasingly, purchase decisions are made in store—73% according to the Henley Centre (Ampuero & Vila, 2006).

Considerably less is recorded in the management literature about packaging post-consumption (Parsons & Maclaran, 2009). Where they do exist, studies focus upon disposal behavior (Bekin, Carrigan, & Szmigin, 2007; Harrell & McConacha, 1992), macro-environmental concerns, such as the exhaustion of landfill (Babu, Parande, & Basha, 2007; Birtwistle & Moore, 2007; Kassaye & Verma, 1992), the economic costs of being green (Kassaye, 2001) and ethical consumers (Bone & Corey, 2000).

Although packaging plays a role in protecting and preserving the product, Peattie (1992) observes that packaging paves the way for the throwaway society in many western countries. Lucas (2002) remarks that criticism of the throwaway society starts in the 1960s as a partner to the outcry against the consumer society, with the two processes being inextricably linked. "The speed with which consumption craved the new was matched by the ease with which things were thrown away" (p5). However, Lucas (2002) also believes that the fact that the packaging is disposable creates an esthetic value connecting single-use and hygiene. Consumers get the assurance that the packaging is new and therefore clean as they dispose of the packaging after its usage themselves. Hence, a link emerges between the disposability of the packaging and the consumption of its contents.

Whilst packaging has had many advantages to the marketer and consumer, in the mature consumer society, concerned with issues of sustainability, a considerable anti-packaging lobby exists amongst some consumers. Within the domain of symbolic consumption, some researchers argue that knowing what consumers do not want to purchase is as important as knowing what they want (Banister & Hogg, 2004; Ogilvie, 1987; Patrick, Maclnnis, & Folkes, 2002; Wilk, 1997). Oliva, Oliver, and MacMillan (1992) identify the concept of brand avoidance as the antithesis of brand loyalty. As with excess packaging, perhaps the improper disposal (litter) of packaging leads to brand avoidance or negativity toward the brand?

Lee, Motion, and Conroy's (2009) study reveals three types of brand avoidance: experiential avoidance, identity avoidance and moral brand avoidance. Experiential brand avoidance happens when consumers' expectations have not been met through negative first hand consumption experiences. Studies of undesired self and image congruity suggest that individuals purchase products to enhance or maintain their self-concept. Simultaneously consumers purchase to avoid bringing undesired meaning into their lives or the objects they consider to be incongruent with their existing self-concept (Banister & Hogg, 2004; Dolich, 1969; Patrick et al., 2002). Identity avoidance occurs when the brand image is symbolically incongruent with the individual's identity. Moral avoidance develops when the consumer's ideological beliefs conflict with certain brand values or associations, particularly when the consumer's concerns are about the negative impact of a brand on society (Lee et al., 2009). A brand is a constellation of values, and when consumers think a certain company or brand represents undesirable or incongruent values, they are likely to avoid that brand. Bhattacharya and Elsbach (2002) also note when individuals perceive certain organizations to be incongruent with their own values, they tend to distance themselves from the company and/or boycott its products.

Roper and Parker (2006, 2008) discuss the display of negative brand messages if the empty product ends up as litter on the street. In asking this question Roper and Parker consider packaging not just from a micro consumer behavior aspect (i.e. the effect on the consumer's purchase decision), but from a macro perspective, that is the full consumption process, including post-consumption and the litter effect. Deasy (2000) suggests that the characteristics or positioning of a product are permanently transmitted over seven stages, from point of sale (Allouche & Laroche, 2005) to disposal (Banister & Hogg, 2004). So, how badly does improper disposal of packaging reflect upon the brand? Rokka and Uusitalo (2008) claim that, contrary to previous studies, an increasingly large consumer segment considers the environmentally-friendly nature of packaging to be its most important attribute and has a positive impact on consumer choice. Clearly packaging seen as litter in the street is the opposite of being environmentally friendly. Lofgren (2008) discusses two moments of truth that packaging creates. The first is at the point of purchase where packaging acts as the silent salesman, whilst the second is during the time of consumption. Using this analogy packaging seen as litter could lead to a third moment of truth that negatively affects brand perception, albeit by someone other than the original consumer.

2.2. Hypothesis development

The sustainability debate focuses upon companies becoming accountable for their social performance, and "this applies to their actions as well as to the outcomes that result from these actions" (Van Beurden & Gossling, 2008, p.407 citing Freeman, 1994). Packaging fast-food (an action) results in litter (an outcome), which has damaging social, environmental and economic costs to society. In addition, the preceding discussion on the effect of litter on individual brands leads to the following hypotheses.

H1. Branded litter has a negative effect on consumers' brand evaluations.

Consumers' brand evaluations can be measured in a variety of ways. Attitude towards the brand and purchase intentions are two of the most common methods used thus leading us to start to re-state H_1.

H1a. Consumer exposure versus non-exposure to branded litter causes a lower attitude towards the brand.

H1b. Litter will cause consumers to have a lower intention to purchase or try a brand than those not seeing litter.

In addition to brand attitudes (including purchase intentions), the personality of a brand is another important aspect of the brand evaluation construct (Roper & Davies, 2007). In relation to the measurement of brand personality, authors (Bosnjak & Rudolph, 2008; Davies, Chun, da Silva, & Roper, 2001) identify the limitations of using only positive dimensions. Following the work of Bosnjak and Rudolph (2008), who found that positive and negative brand personality dimensions may be affected differently, this study focuses on both aspects, contributing the following

H1c. Litter causes consumers to evaluate a brand's positive personality dimensions more negatively.

H1d. Litter causes consumers to evaluate a brand's negative personality dimensions more negatively.

Brand reputation is the final important aspect of the brand evaluation construct investigated.

H1e. Litter versus no litter causes consumers to have a lower view of a brand's reputation.

3. Method

The research adopts a quasi-experimental methodology, the purpose of which was to establish whether or not seeing litter in relation to a brand influences a consumer's evaluation of that brand. A quasi-experiment is used that tests the reactions of the public to a brand in a realistic setting.

4. Context

In their (Keep Australia Beautiful, 2008) study of branded litter items in Australia, McDonalds was the second most common brand to be found as litter (9.85% of all branded litter). In a UK city, fast-food packaging was found to be the fourth most common item of litter (Roper & Parker, 2006). A survey undertaken by Keep Britain Tidy identifies that fast-food litter accounts for a quarter of all litter found in ten city areas (The Telegraph, 2009). Fast food litter is the fastest growing category of litter in the UK. A litter survey conducted by the Keep Britain Tidy organization looked at a typical British City, Bristol. They report that packaging litter from traditional fast food such as chips, burgers and kebabs is now found in 50% more areas than two years previously (Anonymous, 2007). “Up to one and a half tons of fast food litter ends up on the streets of Bristol each weekend night” (Bristol City Council, 2007).

Despite growing environmental awareness in the 1980s and consumer campaigns such as mailing back used McDonalds fast food packaging to the company, fast-food litter is a growing problem but companies attempt to answer their green critics by moving to recyclable containers (which are just as likely to end up as litter, thereby a “distraction from the task of reducing production of disposable goods” Empson, 2007). As well as a growing problem, fast food litter poses the highest risk to public health, as food deposits can attract vermin.

5. Stimulus material

A new fast-food concept for UK public parks was designed, called BigBurger. A new brand avoided the pre-conceptions that could be present in an established fast-food brand. A kiosk was hired in a prominent public park in the north–west of England and a BigBurger restaurant was installed. This new brand involved the creation of branded livery, including staff uniforms, signage, menus together with packaging for burgers, French fries, drinks etc. A professional film crew was hired and two short films (90 second duration) were produced. The films involved the use of professional presenters and actors and took the form of a short news report letting people know about this new fast-food brand that was taking advantage of an increased trend of eating whilst on the move. The film was produced to resemble a feature that would appear on a regional news show. The film explains the BigBurger concept and showed the BigBurger kiosk during a working day with customers being served by staff and taking away their food and drink and also featured a short interview with BigBurger's marketing manager who discussed the brand's successful launch and expansion. Consumers were informed that they were participating in the evaluation of a new brand.

6. Experimental procedure

The method uses two experimental conditions. In the first one, consumers see the BigBurger brand with no litter present. In the second condition, consumers see the same brand, but with evidence of discarded BigBurger packaging within three scenes of the film. This manipulation enables us to investigate a direct litter effect, which is the impact of a particular brand of litter upon the same brand. The experiment is conducted via the internet. Having seen one of the two films (random allocation) consumers then answer questions that measure their attitude towards the brand, opinions of its brand personality, purchase intention, willingness to try the brand and measures of brand equity.

6.1. Pretesting

A pre-test of the work was conducted in order to calculate the effect size for the purpose of sample planning and to test the effectiveness of the stimulus, experimental procedure and measures. 500 UK adult residents were randomly allocated to one of the two conditions outlined above.

The pre-test was used to trial the experimental procedure, to ensure that the video and survey worked flawlessly and that the video was seen as believable by respondents. When questioned only 7 from the 500 (1.4%) pre-test respondents expressed doubt that the film was an authentic news report. The data was collected from a representative sample of the UK population (see Appendix A for the age profile of pre-test respondents). The pre-test helped us set a realistic minimum time for respondents to watch the film and complete the questionnaire. A minimum time of 4 min was set for completion of the questionnaire. Respondents taking less time were excluded from analysis. The measures chosen for brand evaluation (see below) were proven to be suitably reliable during the pre-test.

6.2. Sample size planning

Sample size calculation was performed using the G*Power 3 software (Faul, Erdfelder, Lang, & Buchner, 2007), assuming a minimum statistical power of .80 and a Type I error rate amounting 5%. The expected effect size $d = .13$ was taken from the pretest described above. Given these parameters, an overall required sample size of approximately 1000 was determined.

6.3. The main sample

A sample of 1000 consumers, UK residents, were randomly allocated via an internet survey to one of the two experimental conditions until each group had $n = 500$ fully completed responses. An internationally recognized sampling company provided the sample.

The sample was split equally amongst male/female consumers and represents the approximate demographic distribution of UK adults. Analysis of the data shows no significant difference between consumers in the two experimental conditions in terms of gender, occupation or level of qualifications. A significant difference in the responses between ages ($p < .10$) is found, but no significant difference between the two groups regarding their consumption of fast-food. Tests demonstrate that a random allocation of participants across the three groups can be assumed. Details of the profile of the main sample are in Appendix B.

6.4. Measures

For brand attitudes, a full list of Osgood, Suci, and Thompson's (1957) classic semantic differential adjectives were evaluated by 8 marketing academics to establish the most appropriate in testing consumer preference for a new fast moving consumer good. 15 pairs of adjectives were chosen (Good/Bad; Beneficial/Harmful; Superior/Inferior; Reputable/Disreputable; Pure/Impure; Tasteful/Distasteful; Interesting/Boring; Positive/Negative, Strong/Weak; Beautiful/Ugly; Honest/Dishonest; Virtuous/Sinful; Right/Wrong; Educated/Innocent; Intelligent/Unintelligent) and measured on a 7 point scale from +3 to −3. Attitude towards the brand was a total of the scores of the 15 items. (Cronbach's alpha = .97).

The total score over the following 29 items (taken from validated brand personality scales of Davies, Chun, da Silva, & Roper, 2003) measures *positive* brand personality dimensions: Friendly, daring, reliable, honest, trendy, hard-working, casual, exciting, secure, simple, charming, sincere, cool, young, extrovert, imaginative, open, refined, easy-going, innovative, achievement-oriented, ambitious, stylish, leading, prestigious, pleasant, elegant, trustworthy, reassuring (Cronbach's alpha = .96). Consumers were asked to imagine that the brand had come alive as a person and score the extent to which they agree/disagree with the items on a 5 point Likert scale.

As many brand evaluation measures tend to use positive anchors/ items/questions etc, that is those measuring approach attitudes or intentions, for example, "likelihood of purchasing" (Armstrong, Morwitz, & Kumar, 2000; Juster, 1966) 16 items measure the negative brand personality dimension (Bosnjak, Bochmann, & Hufschmidt, 2007; Davies et al., 2003): Hypocritical, incompetent, selfish, authoritarian, irresponsible, controlling, arrogant, inward-looking, egocentric, unsympathetic, aggressive, unreliable, manipulative, disorderly, dogmatic and dominant. (Cronbach's alpha = .88). The same 5 point Likert scale measures both positive and negative brand personality attributes.

Reputation measures consumers' opinion of the BigBurger brand: (BIGBurger has a distinct brand personality; BIGBurger has a unique identity; BIGBurger has a strong brand image; BIGBurger will have a good reputation). Reputation is the total score of these 4 items (Davies et al., 2003) (Cronbach's alpha = .89).

The following items comprise the total score of behavioral intention: willingness to try BIGBurger; willingness to buy BIGBurger and willingness to try BIGBurger when offered an alternative. An 11 point scale (from 0 to 10) measures purchase intention (Cronbach's alpha = 0.93).

Finally, consumers indicate how much they are willing to pay (in pounds and pence) for a specific item (a cheeseburger) thereby estimating the financial impact of the litter effect on a specific brand.

7. Results

Table 1 contains the results of the hypotheses tests (independent samples two-tailed t-tests). The first column contains a summary of the hypotheses and the corresponding variables (no litter exposure and with litter exposure), the second the mean value of the variable, the third the t-value and the fourth the p-value.

Those seeing litter had significantly lower attitudes towards the BIGBurger brand than those who did not providing support for H_{1a}. Those seeing litter also had a significantly lower intention to purchase or try the brand, providing support for H_{1b}. In relation to positive brand personality, no significant difference was found between the two groups (H_{1c}). Nevertheless, comparing the means of the negative personality dimensions, again between the two experimental groups, demonstrates a significant difference providing support for H_{1d} (consumers exposed to litter will evaluate a brand's negative personality dimensions more negatively than those not exposed to litter). Lastly, no significant difference across the two groups for the evaluation of brand reputation was found.

7.1. The financial impact of the litter effect

Finally, an attempt to quantify the financial impact of the litter effect is made. The mean values of the price consumers were willing to pay, for one cheeseburger, across the two groups (no litter and BIG-Burger litter) were £1.96 and £1.92 respectively.

Table 1
Results [report the S.D. for each mean.].

	Mean	SD	t	p-value
Attitude towards the brand[a]				
No litter exposure	65.5	17.01	−3.225	.001
With litter exposure	69.1	18.01		
Behavioral intention				
No litter exposure	17.0	8.79	2.955	.003
With litter exposure	15.4	8.85		
Positive brand personality				
No litter exposure	82.7	16.50	1.870	.061
With litter exposure	80.7	17.55		
Negative brand personality[a]				
No litter exposure	45.2	8.70	−3.977	.000
With litter exposure	47.3	8.55		
Brand reputation				
No litter exposure	11.7	3.23	2.474	.014
With litter exposure	11.2	3.37		

[a] Reverse scored.

8. Discussion/conclusions

Many studies in branding, general marketing and consumer behavior measure the effect of variables upon brand evaluations (such as attitudes towards the brand, purchase intentions etc.). Nevertheless, the effects under investigation tend to be controllable, that is within the marketers' sphere of influence (such as the optimum pricing level or the most successful media for promotion purposes etc.) This conclusion is not surprising as marketing is an applied discipline which aims to design interventions to improve customer perceptions of a brand, increase their likelihood of purchase etc. The findings from the study suggest that litter, rather than being an uncontrollable externality over which the marketer/manufacturer has no jurisdiction or interest should actually be an extension of the marketing mix. The presence of litter negatively affects attitude towards the brand, brand personality, brand reputation and behavioral intention.

Some fast-food operators (e.g. McDonalds) have previously invested in the collection of their litter in specific small areas around their store's location and recently, in some UK city-center areas, McDonalds now collects all litter, not only its own (Personal Communication, 2009). In addition, the findings are interesting because, unlike other studies (e.g. Huber, Vollhardt, Matthes, & Vogel, 2010) which measures more explicit examples of negative associations with brands (brand misconduct) this study does find a significant relationship between one negative association (litter) and repurchase intention.

Whilst litter affects negative brand personality items, the same level of effect is not found with positive brand personality (i.e. the results are not statistically significant although the means are in the expected direction). The words that measure negative brand personality obviously have resonance with a socially undesirable concept such as litter, for example, selfish, irresponsible, and disorderly. This research demonstrates that not only more positive, controllable factors impact on a consumer's brand evaluation. In the case of negative factors, the traditional, predominantly positive measures of brand personality may not be sufficiently sensitive to measure negative effects. Marketers tend to measure their brand in terms of positive attributes and overlook the important nature of these negative evaluations and their long-term impact upon corporate reputation. This black-box approach study does not establish the reason(s) why litter affects negative brand personality dimensions more than positive ones and suggests that this area is an avenue for future research.

In relation to brand equity, the difference in price consumers are willing to pay for a specific item (a cheeseburger) is 4p less if they see BigBurger litter. This amount represents 2% of turnover. McDonalds serves 47 million customers each day so considering this price gap in terms of the vast turnover of global fast-food restaurants represents hard evidence of why firms can improve the image of their brand and its financial performance by investing in ways of doing good, such as increasing the likelihood of proper disposal, after consumption or reducing the amount of packaging etc.

By focusing upon one specific aspect of an organization's activity (packaging and litter), this study has made some progress toward deconstructing the unclear concept of sustainability (Sullivan Mort, 2009). Bartlett and Preston (2000) argue that the challenge is to convince the organization (and hence the people in the organization) that a direct benefit accrues as a result of its own ethical behavior (p.205); the findings demonstrate that being seen as litter has a significant impact on a brand's reputation and value. The fast-food industry is not going to eradicate the problem of litter, but the industry is more likely to invest in activities where a financial incentive exists. Litter reduction then has a positive societal impact, in fact the litter effect may be an example of Adam Smith's Invisible Hand (Smith, 1776) whereby "Every individual…generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it……. he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention" (The Wealth of Nations, Book IV Chapter II).

Of course, not only manufacturers and governments can bring about change. Enlightened consumer self-interest also means some consumers are boycotting certain products. Goodyear's (1996) concept of post-modern branding is also relevant here. She discusses brand as policy whereby the existing cultural centers and areas of importance such as religion and politics are declining in western countries. Increasingly, the public views political parties as being very similar to one another and thus reduces their interest and participation in the democratic process. They also see governments as powerless against the huge, financially powerful corporations; instead of voting for political parties in the way they once would, consumers instead vote for brands. Consumers give their support to those companies that demonstrate a set of values that match those of the consumer him/herself. So a brand seen as litter could be one that consumers decide to withdraw their support (or vote) from.

In reality, consumers, manufacturers and legislators need to own and tackle the problem of litter. "Garbage is the detritus of a system that unscrupulously exploits not only nature, but also human life and labor" (Rogers, 2005). Litter is currently the product of a capitalist system which is inherently wasteful. This paper discusses CSR not just from one industry's perspective, but on a planetary scale. Litter is such a global problem that society has to fundamentally change its useage, production and treatment of material goods.

Appendix A

Age profile of pretest respondents.

Age group	Frequency	Percent	Cumulative percent
16–24	63	12.6	12.6
25–34	138	27.5	40.1
35–44	117	23.4	63.5
45–54	99	19.8	83.2
55–64	59	11.8	95.0
65+	25	5.0	100.0
Total	501	100.0	

Appendix B

Profile of main sample.

Age group	Frequency	Percent	Cumulative percent
16–24	192	12.8	12.8
25–34	418	27.8	40.6
35–44	322	21.4	62.0
45–54	254	16.9	78.9
55–64	222	14.8	93.7
65+	95	6.3	100.0
Total	1503	100.0	

Qualification level of main sample.

Qualification	Frequency	Percent	Cumulative percent
Masters level or above	141	9.4	9.4
First degree or equivalent	462	30.7	40.1
A-level or equivalent	437	29.1	69.2
GCSE or equivalent	382	25.4	94.6
No qualifications	81	5.4	100.0
Total	1503	100.0	

Employment status of main sample.

Status	Frequency	Percent	Cumulative percent
Full or part-time employment	958	63.7	63.7
Full-time student	113	7.5	71.3
Other	432	28.7	100.0
Total	1503	100.0	

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